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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/644,775	08/21/2003	Tamar Tennenbaum	HEALOR-202	6931

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EXAMINER	
ALLEN, MARIANNE P	
ART UNIT	PAPER NUMBER
1647	
MAIL DATE	DELIVERY MODE
12/21/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/644,775	TENNENBAUM, TAMAR	
	Examiner	Art Unit	
	Marianne P. Allen	1647	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07 October 2007*.

2a)☐ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *114-130* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *114-130* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *10/7/07, 10/9/07, 10/29/07, 11/1/07*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after allowance or after an Office action under *Ex Parte Quayle*, 25 USPQ 74, 453 O.G. 213 (Comm'r Pat. 1935). Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, prosecution in this application has been reopened pursuant to 37 CFR 1.114. Applicant's submission filed on 10/7/07 has been entered.

Claims 1-113 have been cancelled. Claims 114-130 have been newly added.

Information Disclosure Statement

The information disclosure statements submitted 10/7/07, 10/9/07, 10/29/07, and 11/1/07 are noted.

Claim Objections

Claim 114 is objected to because of the following informalities: The claim contains a typographical error, "myristoylαted." It appears the Greek letter "α" should be an "a." Appropriate correction is required.

Inventorship

In view of the papers filed 3/14/07, the inventorship in this nonprovisional application was previously changed by the deletion of Sampson, Kuroki, Alt, and Shen. The sole remaining inventor was Tamar Tennenbaum.

Applicant submitted a petition under 37 CFR 1.48(a) to add back the deleted inventors Sampson, Kuroki, Alt, and Shen on 10/7/07. It is noted that the claims have not substantively

changed between 3/14/07 and the present. As such, it is unclear what amendments necessitated this change in inventorship. In addition, the statement of facts by Tamar Tenenbaum does not explicitly state that the inventorship error occurred without deceptive intent on his or her part.

Furthermore, this request to correct the inventorship of this nonprovisional application under 37 CFR 1.48(a) is also deficient because:

There was no statement for Shlomzion Shen nor an oath signed by Shlomzion Shen.

In addition, the oaths by the remaining named inventors contained a priority claim that differs from that in the original oath. The original oath indicates that the instant application is a CIP of 10/169,801 which is a 371 of PCT/IL01/00675. Priority is also claimed to 60/486,906. The newly filed oath is inconsistent with this priority claim and the continuity information set forth in the first sentence of the specification. Applicant's intent is unclear.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 114-119 and 122-123 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over at least claim 187 of copending Application No. 11/332,774. Although the conflicting claims are not identical, they are not patentably distinct from each other because they are directed to pharmaceutical compositions for wound healing comprising an agent, such as the N-myristoylated PKCα inhibitor of SEQ ID NO: 1, and insulin.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Applicant is reminded to maintain a clear demarcation between the claims of co-pending applications. Applicant is requested to advise the examiner of any other co-pending applications with claims directed to similar subject matter.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 115 and 123-130 rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. This is a new matter rejection.

Claims 115 and 123-130 are not original claims. Applicant has not pointed to basis for these claims and none is apparent.

Claim 115 is directed to a composition comprising insulin and a PKCα inhibitor of SEQ ID NO: 1. The specification does not appear to disclose generic compositions but rather appears to disclose only pharmaceutical compositions containing a pharmaceutically acceptable carrier and for the intended use of inducing or accelerating a healing process of a skin wound but not other uses.

Claims 123-130 comprises "as an active ingredient, a single dose-unit of insulin selected capable of inducing or accelerating a healing process of the skin wound." This phrase is confusing and its basis is unclear. Claims 124-125 recite particular dosages. Basis has not been pointed to for these claim limitations.

Claims 116-122 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for a topical preparation of insulin and PDGF-BB as exemplified in the specification, does not reasonably provide enablement for other compositions within the scope of the claims. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with these claims.

Claim 116 is directed to a pharmaceutical composition for inducing or accelerating a healing process of a skin wound comprising a therapeutically effective amount of insulin and at least one additional agent acting in synergy with said insulin to induce or accelerate the healing

process of a skin wound, and a pharmaceutically acceptable carrier being designed for topical application of the pharmaceutical composition.

In *In re Wands* (8 USPQ2d 1400 (CAFC 1988)) the CAFC considered the issue of enablement in molecular biology. The CAFC summarized eight factors to be considered in a determination of "undue experimentation." These factors include: (a) the quantity of experimentation necessary; (b) the amount of direction or guidance presented; (c) the presence or absence of working examples; (d) the nature of the invention; (e) the state of the prior art; (f) the relative skill of those in the art; (g) the predictability of the art; and (h) the breadth of the claims.

Example 21 and Figure 28 shows that insulin and PDGF-BB have a more than additive effect on wound healing in an in vivo mouse model.

Although Examples 22-23 discuss the wound healing properties of insulin and a PKCα inhibitor commercially available from Calbiochem in an in vivo mouse model. However, it is noted that these effects were not synergistic. (See page 60 of the specification.)

The specification provides no guidance or reason to believe that other growth factors such as IGF-1, EGF, TGF-β, KGF, ECGF, and other forms of PDGF (for example, PDGF-AA) will provide a synergistic effect when used with insulin to heal skin wounds. Each of these are structurally and functionally different growth factors with different mechanisms of action and different receptors. The single exemplification of PDGF-BB is not sufficient to predict or extrapolate results for other growth factors.

The specification does not specifically identify the structure of any PKCα inhibitor that would have been expected to have the recited synergistic effect.

The specification does not identify any other agents that would have been expected to act in synergy with insulin to provide the recited effect.

Given the breadth of the claims, the lack of direct or guidance provided by the specification, and the single working example, it would constitute undue experimentation to practice the invention as claimed. It is not considered to be so predictable to determine those agents that would act in synergy with insulin to induce or accelerate the healing process of a skin wound based on the information disclosed in the specification.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 116-130 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 116 recites "acting in synergy." The specification does not clearly define this phrase as requiring a synergistic action of insulin and the additional agent. Where "acting in synergy" is used in the specification it appears to be with respect to inducing or accelerating wound healing. That is, a combined effect greater than that by either of the two components individually or greater than an additive effect does not appear to be required. Clarification is requested.

Claims 116 and 123 recite "being designed for topical application." It is not known what the metes and bounds of this phrase are. In addition, the recitation of "contained in a formulation

adapted for topical application" in claims 122 and 128 already appears to be a limitation of claims 116 and 123, respectively. Clarification is requested.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 116-118 and 120-122 are rejected under 35 U.S.C. 102(b) as being anticipated by Edwards et al. (U.S. Patent No. 5,770,228).

Edwards et al. discloses and claims a pharmaceutical composition comprising PDGF-BB and insulin in a cellulose gel for use in wound healing. See at least abstract and claims. The patent does not specify whether the insulin is from natural or recombinant sources and is considered to include insulin from any source just as the PDGF may be from natural or recombinant sources (see column 2, lines 55-60). The instant specification makes clear that insulin from both sources would have been well known at the time of the invention.

Applicant is reminded that intended use and functional language are given no patentable weight in a product claim.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marianne P. Allen whose telephone number is 571-272-0712. The examiner can normally be reached on Monday-Friday, 5:30 am - 2:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Manjunath N. Rao can be reached on 571-272-0939. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Marianne P. Allen/
Primary Examiner, Art Unit 1647

mpa